

Appl. No. 10/009,466  
Amdt. dated Jun. 27, 2005  
Reply to Office Action of March 25, 2005

### REMARKS/ARGUMENTS

Responsive to the Office Action of March 25, 2005, Applicants provide the following remarks in an effort to address the issues cited by the Examiner. Applicants submit that by this amendment, no new matter has been added to the application. Reconsideration and reexamination are respectfully requested.

### STATUS OF THE CLAIMS

Claims 1 to 16 remain pending in the application.

Claim 1 has been amended to better define what the Applicants consider their invention, as fully supported by an enabling disclosure.

### REJECTIONS UNDER 35 U.S.C. § 103 FIRST PARAGRAPH

The Examiner has rejected claims 1-4, 6-7 and 12-16, as being unpatentable over Odell (2,700,598) in view of Andrew et al. (4,810,422); claim 5 as being unpatentable over Odell in view of Andrew et al. and Fegraus et al. (3,884,297); and claims 8-11 as being unpatentable over Odell in view of Andrew et al. and Foster et al. (3,674,666) under 35 U.S.C. § 103, first paragraph.

Applicant amends independent claim 1 so as to more precisely recite, as supported in the description as filed, a fixed bed reactor for gas involving exothermic catalytic reaction, the reactor using heat it itself generates to self-regulate exothermic reactions and being operable in a range of positions from an horizontal position to a vertical position (see for example page 13, lines 10-16).

Odell discloses an apparatus wherein a fluidized bed is used for reforming of gaseous hydrocarbons or hydrogen and carbon containing compounds, according to a typically endothermic method that requires heating up the reaction mixture. Although the reactor disclosed by Odell consists of concentric tubes, their disposition is entirely

Appl. No. 10/009,466  
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different from that of the present invention, and is intended for use in an upright vertical direction. Moreover, Odell does not give any information on possible modification of its reactor for application as a self-regulating reactor for exothermic reactions.

Andrew et al. disclose an apparatus comprising closed ended externally heated reformer tubes, for conducting an endothermic catalytic reaction, insulation being a critical feature.

As none of Odell or Andrew et al. teach or event hint at a self-regulating reactor for exothermic reactions as now recited in the amended claim 1, it is respectfully submitted that a combination of their teachings would not lead to a reactor as recited in this amended claim 1.

In view of the above and foregoing, it is respectfully requested that the Examiner withdraw his rejection of claim 1, as well as of dependent claims 3, 4, 6-7 and 12-16 under 35 U.S.C. § 112, and first paragraph.

Fegraus et al. teach an annular flow heat exchanger allowing a heat transfer between liquid coolant and hot effluents to control the temperature of hot gases prior to analysis.

As none of Odell or Andrew et al., as discussed before, or Fegraus et al. teach, or event hint at a self-regulating reactor for exothermic reactions as now recited in the amended claim 1, it is respectfully submitted that a combination of their teachings would not lead to a reactor as recited in claim 5, which incorporates the subject matter of the amended claim 1.

Therefore, it is respectfully requested that the Examiner withdraw his rejection of claim 5 under 35 U.S.C. § 112, first paragraph.

Appl. No. 10/009,466  
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Foster et al. disclose an apparatus for an enhancement of chemical reaction rates by means of electrical charging electrically conductive particles held in place by layers of glass sand, sand being used as a support.

As none of Odell or Andrew et al., as discussed before, or Foster et al. teach or even hint at a self-regulating reactor for exothermic reactions as now recited in the amended claim 1, it is respectfully submitted that a combination of their teachings would not lead to a reactor as recited in any one of claims 8 to 11, which all incorporate the subject matter of the amended claim 1.

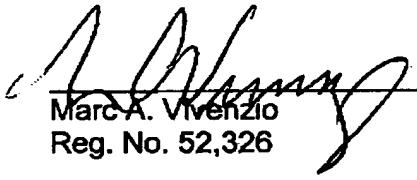
Therefore, it is respectfully requested that the Examiner withdraw his rejection of claim 8-11 under 35 U.S.C. § 112, first paragraph.

Appl. No. 10/009,466  
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**CONCLUSION**

For at least the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance. Accordingly, a timely notification of allowance is courteously requested. If, for any reason, the Examiner is inclined to further reject any of the claims, Applicants requests that counsel be contacted to resolve any remaining issues. Reconsideration is requested and favorable action is solicited.

Respectfully Submitted,  
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